Acetobacter Agar (Glucose) is used as a maintenance media for glucose positive *Acetobacter* species.

**Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Gms / Litre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yeast extract</td>
<td>10.000</td>
</tr>
<tr>
<td>Calcium carbonate</td>
<td>10.000</td>
</tr>
<tr>
<td>Glucose</td>
<td>3.000</td>
</tr>
<tr>
<td>Agar</td>
<td>15.000</td>
</tr>
<tr>
<td>Final pH (at 25°C)</td>
<td>7.4±0.2</td>
</tr>
</tbody>
</table>

**Formula adjusted, standardized to suit performance parameters**

**Directions**

Suspend 38 grams in 1000 ml distilled water. Heat just to boiling. Dispense in test tubes, taking care to distribute calcium carbonate evenly. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Shake the tubes, cool quickly and place them in a slanted position so as to keep the calcium carbonate in suspension.

Note: Due to presence of calcium carbonate, the prepared medium forms opalescent solution with white precipitate.

**Principle And Interpretation**

*Acetobacter* species are aerobic, gram negative organisms. Acetic acid bacteria are found in fruits with high carbohydrate concentration, which is selective for yeasts that produce ethanol. This ethanol forms the substrate for acetic acid bacteria and may oxidize ethanol to acetic acid (1). Various synthetic and maintenance media for *Acetobacter* cultures have been cited (2). A typical maintenance medium is Acetobacter Agar (2) Acetobacter Agar is formulated as per Manual of Microbiological Methods (3) and used for the maintenance of *Acetobacter* species utilizing glucose (4).

Yeast extract in the medium provides nitrogen, vitamins and minerals necessary to support bacterial growth. Glucose acts as energy source. Calcium carbonate acts as a buffer.

**Quality Control**

**Appearance**

Cream to yellow homogeneous free flowing powder

**Gelling**

Firm, comparable with 1.5% Agar gel

**Colour and Clarity of prepared medium**

Light amber coloured opalescent gel with heavy white precipitate, forms in tubes as slants.

**Reaction**

Reaction of 3.8% w/v aqueous solution at 25°C. pH: 7.4±0.2

**pH**

7.20-7.60

**Cultural Response**

Cultural characteristics observed after an incubation at 35-37°C for 24-48 hours.

<table>
<thead>
<tr>
<th>Organism</th>
<th>Inoculum (CFU)</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Acetobacter aceti</em> ATCC 15973</td>
<td>50-100</td>
<td>luxuriant</td>
</tr>
<tr>
<td><em>Acetobacter liquifaciens</em> ATCC 14835</td>
<td>50-100</td>
<td>luxuriant</td>
</tr>
</tbody>
</table>
Storage and Shelf Life
Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

Reference
2. Asai, 1968, Univ. of Tokyo Press, Tokyo, Japan and Univ. Park Press, Baltimore, MD.